Question One: (5 marks)

State whether the following statements are **true** or **false**.

In a physical change, new substances are made.
The particles have the most energy in the solid state.
We change a material from one state to another by heating or cooling.
Solids are hard to compress because the particles are already touching each other.
In the gas state the particles are mostly touching but arranged in a random way.

Question Two: (4 mai)

Read the statements below and match each statement with the best explanation.

A	Gases fill the whole container.
B	Diamond has the highest boiling point.
C	Gases can be compressed.
D	Liquids can be poured.

	There are gaps between the particles.
	The particles move around/ slide over each other.
	The particles are moving freely in all directions.
	The particles are held together strongly.

Question Three: (2 marks)

Both evaporation and boiling involve changing a liquid to a gas, but there are a number of differences between them.

Fill in the table with the differences.

Basis of comparison	Boiling	Evaporation
Temperature		
Time (Fast or Slow)		

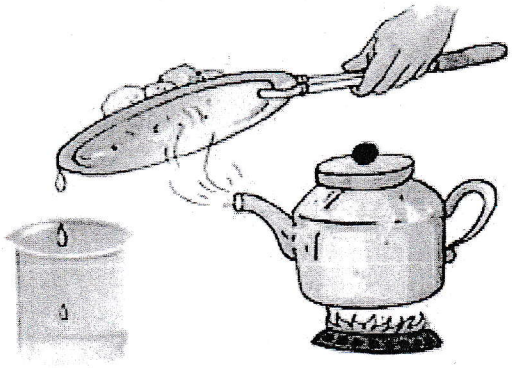
Question Four:

Choose the correct answer from the given choices.

1. Which of the following choices is not an example of a change of state?

   a) A puddle of water drying out
   b) Table salt dissolving in a pot of warm water
   c) Ice melting in a glass of soda

2. A handful of ice cubes were placed on a pan held over a tea pot that was filled with water and set over high heat. Eventually the water comes to a boil and you notice water droplets forming on the pan. What is the correct order of the changes of state involved in this scenario?



a) Liquid----> sublimation----> gas ---->desublimation----> liquid
b) Liquid----> evaporation----> gas----> desublimation----> liquid
c) Liquid----> evaporation----> gas----> condensation----> liquid

3. In a research lab a technician placed a pot with water on a gas stove. The technician notices bubbles forming throughout the water. What process caused the bubbles to form?

a) Sublimation
b) Boiling
c) Evaporation

4. What happens to the movement of the particles in a substance when the energy is increased?

a) Speed Up
b) Slow Down
c) Stay the same

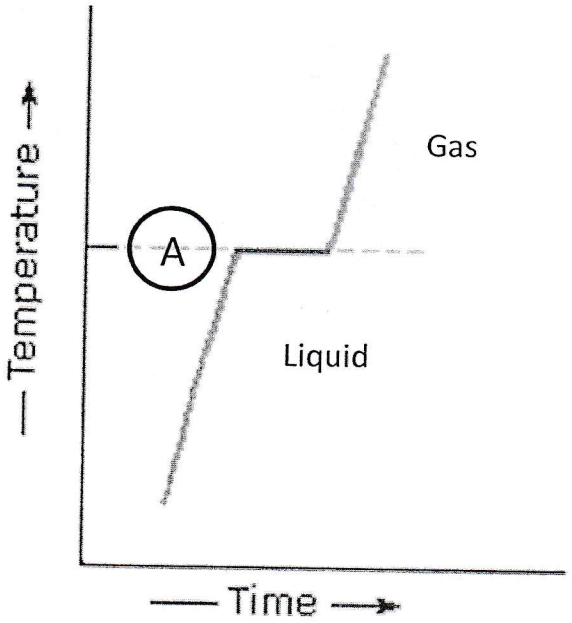
5. When energy is decreased in a gas, what change in state is happening?

a) Boiling
b) melting
c) Condensation

6. _____ is a space with no particles in it.

a) Substance
b) Material
c) Vacuum

Question Five: (3 marks)



1. A liquid turns into a gas when it reaches point (A). What is point (A) called?

2. Explain why the temperature stops rising at point (A).

3. Explain the process in which liquids turn into gases using the particle theory.

(Describe the movement and separation of the particles)